

PATENT ABSTRACTS OF JAPAN

(11) Publication number : 10-233549

(43) Date of publication of application : 02. 09. 1998

(51) Int. Cl. H01S 3/18

(21) Application number : 09-036791 (71) Applicant : NICHIA CHEM IND LTD

(22) Date of filing : 21. 02. 1997 (72) Inventor : YAMADA TAKAO
NAKAMURA SHUJI

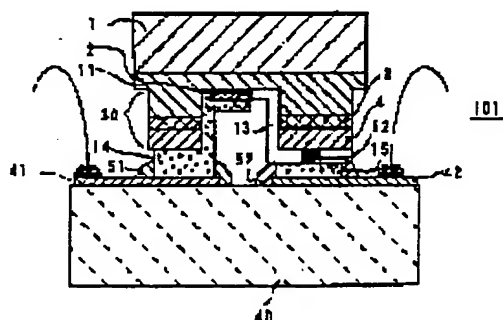
(54) NITRIDE SEMICONDUCTOR LASER DIODE

(57) Abstract:

PROBLEM TO BE SOLVED: To enhance the heat-dissipating property of a nitride semiconductor laser diode by a method wherein, separately from a positive electrode and a negative electrode which are formed on a face which comprises a positive electrode and a negative electrode, a nitride semiconductor layer which is formed to be a shape capable of coming into contact with a heat-dissipating body is provided.

SOLUTION: An n-type layer 2, an active layer 3 and a p-type layer 4 are laminated on a substrate 1, an n-ohmic electrode 11 as a negative electrode is installed on an n-type nitride semiconductor layer in a recess which is formed by an etching treatment, and a p-ohmic electrode 12 as a positive electrode is installed on a p-type nitride semiconductor layer in a protrusion which is not etched.

Then, in addition to the formation of the n-ohmic electrode 11 and the p-ohmic electrode 12, a nitride semiconductor layer in the neighborhood on the left of the n-ohmic electrode 11 is not removed by an etching operation so as to be left, and a heat-dissipating part 30 which is formed to be a shape capable of coming into contact with a heat sink 40 is formed. Thereby, it is possible to obtain a nitride semiconductor laser diode whose heat-dissipating property is improved, which restrains a rise in a threshold value and whose life characteristic can be enhanced.



LEGAL STATUS

BEST AVAILABLE COPY

[Date of request for examination] 18.01.2000
[Date of sending the examiner's decision
of rejection]
[Kind of final disposal of application
other than the examiner's decision of
rejection or application converted
registration]
[Date of final disposal for application]
[Patent number]
[Date of registration]
[Number of appeal against examiner's
decision of rejection]
[Date of requesting appeal against
examiner's decision of rejection]
[Date of extinction of right]

Copyright (C); 1998, 2000 Japan Patent Office

BEST AVAILABLE COPY

Claim(s)] 10-233549

[Claim 1] The nitride semiconductor laser diode characterized by coming to have the nitride semiconductor layer formed in the configuration where a radiator can be contacted apart from forming a positive electrode and a negative electrode in the field which has a positive electrode and a negative electrode in the nitride semiconductor laser diode which comes to prepare the positive electrode and negative electrode of a couple in the same side side.

BEST AVAILABLE COPY